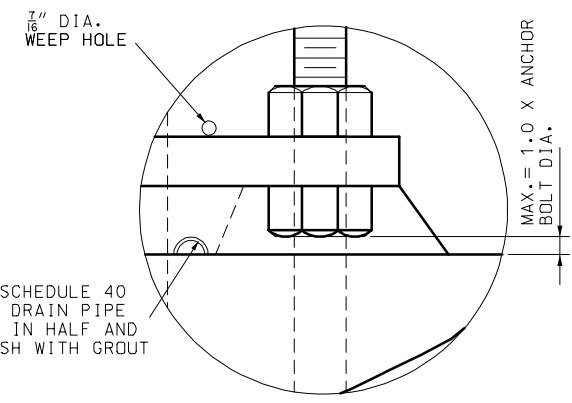
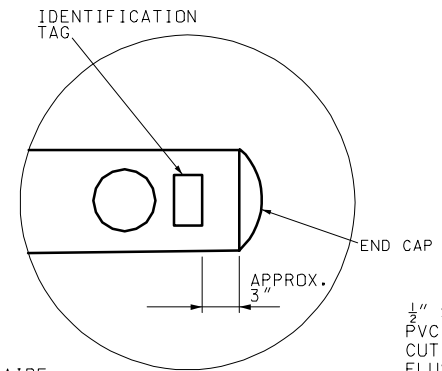
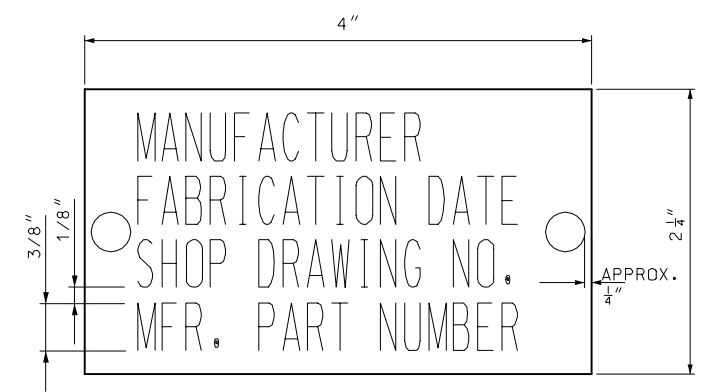


TYPE BL AND CL POSTS



DETAIL B

DETAIL A



IDENTIFICATION TAG

ID TAG NOTE:

TAG SHALL BE ALUMINUM OR STAINLESS STEEL AND ATTACHED TO POLE OR MAST ARM USING TWO RIVETS OR STAINLESS STEEL DRIVE SCREWS. ID TAG HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.

- ARM LENGTHS SHALL NOT EXCEED 54 FEET.
- HANDHOLES SHALL BE APPROXIMATELY 4" x 6-1/2". HANDHOLE FRAME SHALL BE REINFORCED SO THAT THE POLE STRENGTH IS NOT REDUCED.
- 0" TO 6" VARIATION IN BASE HEIGHT IS FOR OBTAINING 16'-0" CLEARANCE. 0.13 C.Y. CONCRETE AND 3 LBS. REINFORCING STEEL PER 6".
- POSTS SHALL BE FURNISHED WITH INDIVIDUAL NUT COVERS.
- NO SIGN IN EXCESS OF 15.0 SQUARE FEET SHALL BE INSTALLED ON POSTS OR MAST ARMS. SIGNS EXCEEDING 6.0 SQUARE FEET SHALL BE LOCATED SO THAT THE EDGE OF THE SIGN IS NO MORE THAN 12" FROM THE CENTERLINE OF THE POST.  
D3 SERIES SIGNS AS WELL AS SIGNS INSTALLED ON THE POST SHALL BE MOUNTED WITH A STRAP TYPE SIGN SUPPORT. R10 SERIES SIGNS INSTALLED ON THE MAST ARM SHALL BE MOUNTED WITH A SIGN BRACKET ASSEMBLY.
- SEE DRAWING 901.00 FOR TYPICAL BRACKET ARM MOUNTING FOR TYPE BL AND TYPE CL POSTS.
- EXPANSIVE GROUT SHALL BE USED BETWEEN THE POST BASE PLATE AND CONCRETE BASE.
- POST SHALL BE GROUNDED FROM GROUND LUG IN POST WITH # 6 AWG BARE COPPER WIRE TO CONDUIT SYSTEM. GROUND LUG SHALL BE 90° OR 180° FROM THE HANDHOLE.

GENERAL NOTES:

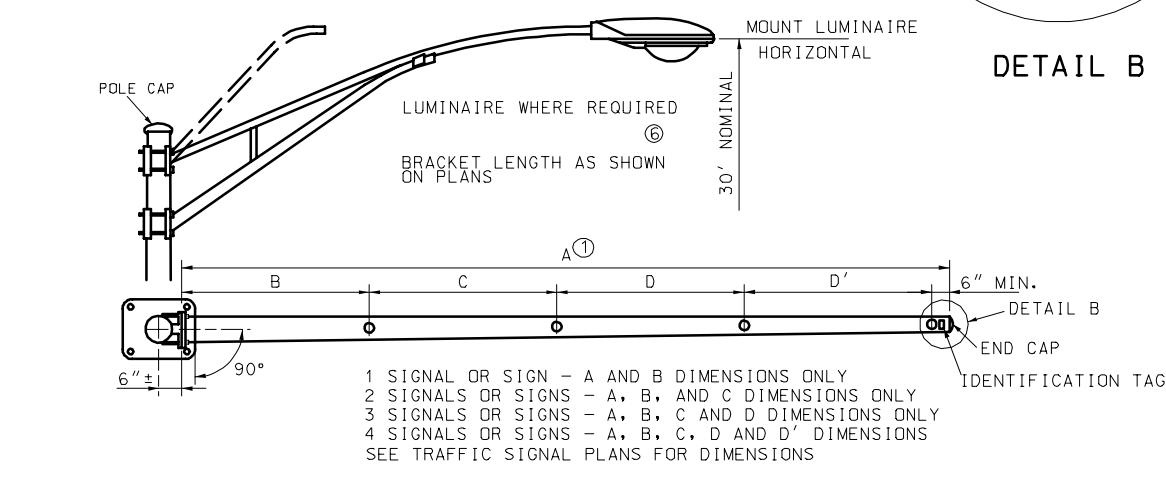
ARMS SHALL BE RAKED UP 0.25" PER FOOT MINIMUM. ARMS SHALL BE PROVIDED WITH A PERMANENT MARKING INDICATING PROPER ORIENTATION FOR INSTALLATION.

SIGNS AND SIGNALS SHALL BE VERTICAL. SIGNAL HEADS ON MAST ARMS SHALL BE TILTED FORWARD FROM THE TOP 3 TO 7 DEGREES FROM VERTICAL.

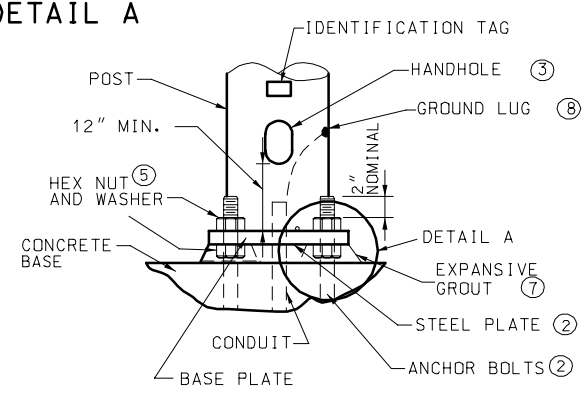
IF A SIGN EXCEEDS 42" IN LENGTH, TWO STRAP SUPPORTS ARE REQUIRED; AND IF A SIGN EXCEEDS 96" IN LENGTH, THREE STRAP SUPPORTS ARE REQUIRED.

TO DETERMINE LEFT OR RIGHT ON TYPE B OR C SIGNAL POST, VIEWING POSITION SHALL BE FROM THE CENTER OF THE INTERSECTION BEING CONTROLLED AND FACING THE SIGNAL INVOLVED.

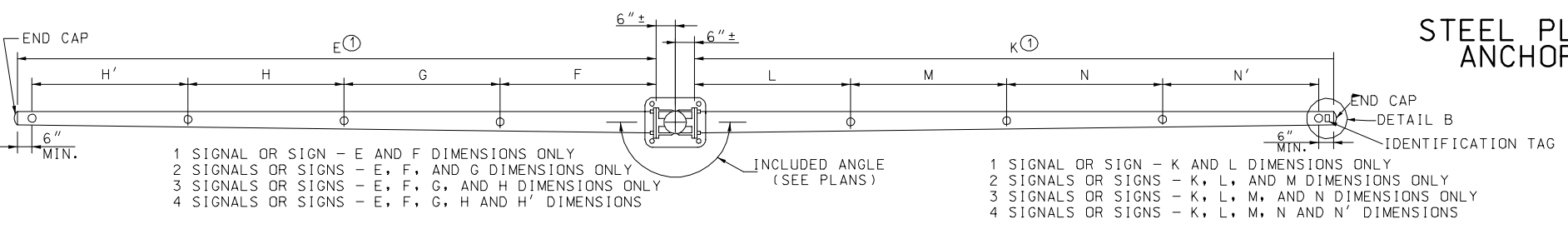
SEE DRAWING 902.30 FOR FOUNDATION AND ANCHOR BOLT DETAILS.



TYPE C AND TYPE CL (WITH LUMINAIRE)

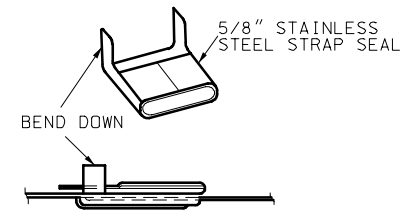


STEEL PLATE AND ANCHOR BASE

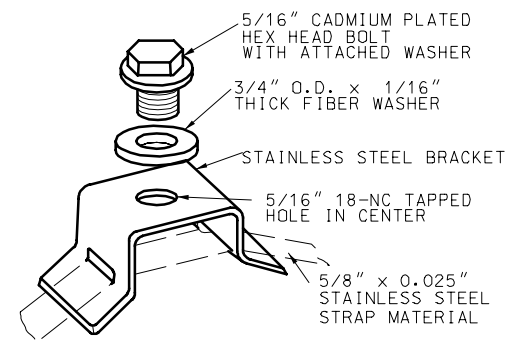


TYPE B AND TYPE BL (WITH LUMINAIRE)

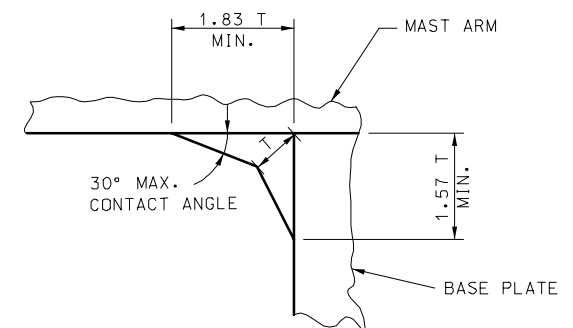
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION			
TRAFFIC SIGNALS TUBULAR STEEL POSTS			
DATE: _____	EFFECTIVE: 07-01-2004	902.40N	1/3



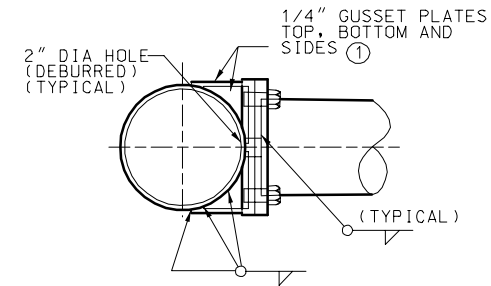
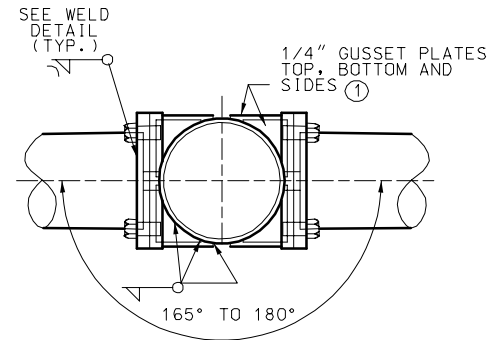
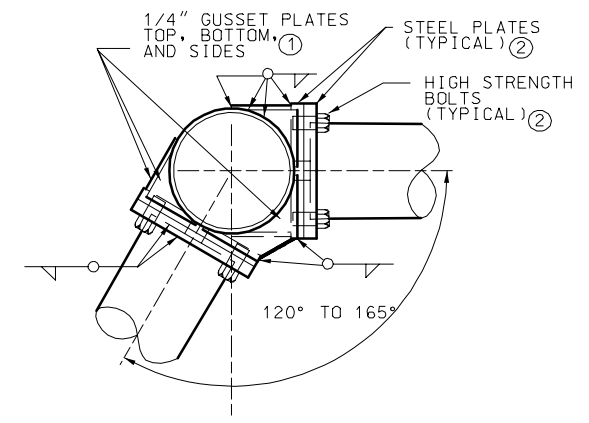
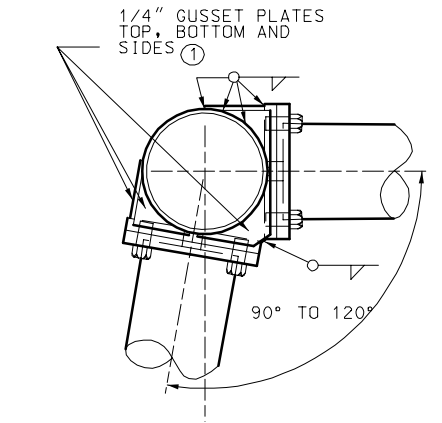
VIEW SHOWING  
ENDS OF STRAP  
CLAMPED IN SEAL



STRAP TYPE  
SIGN SUPPORT

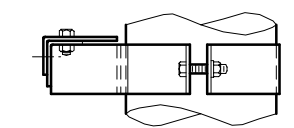


WELD DETAIL

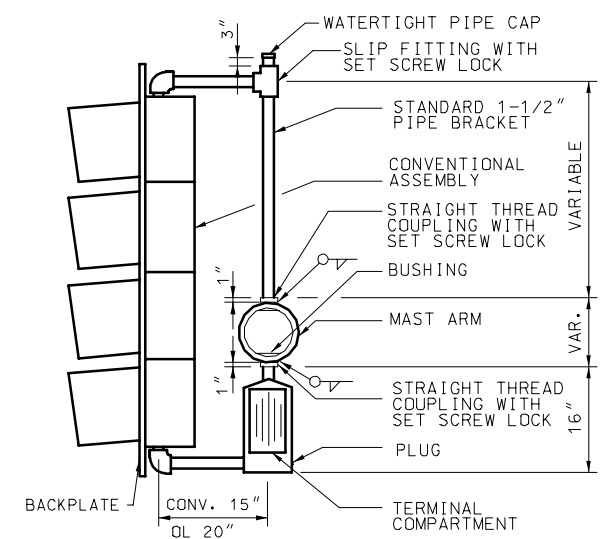


- ① ANY OPENINGS BETWEEN TOP AND SIDE GUSSET PLATES SHALL BE SEALED WITH LIFETIME CAULK AT TIME OF INSTALLATION.
- ② PLATE AND BOLT SIZES SHALL BE SHOWN ON FABRICATORS SHOP DRAWINGS AND SHALL BE SUBJECT TO APPROVAL.

ARM ATTACHMENTS

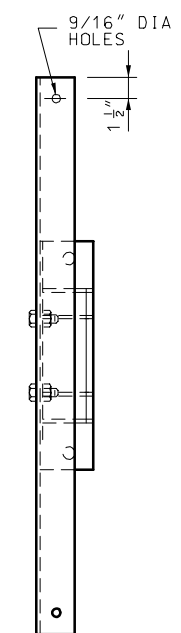


TOP VIEW

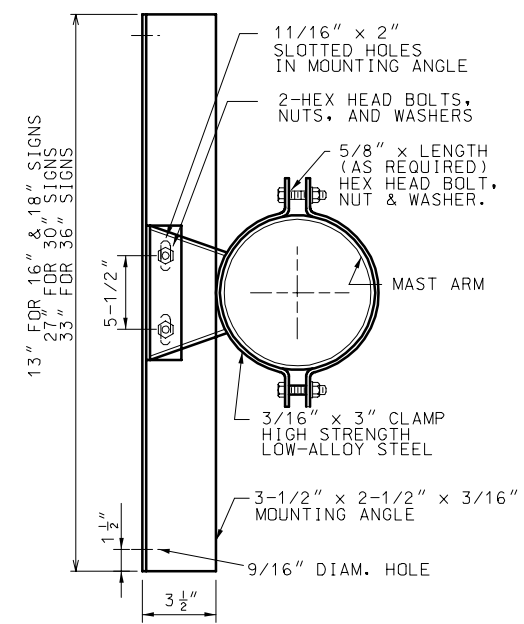


MAST ARM MOUNTED  
SIGNAL HEAD

(SEE DRAWING 902.00)



FRONT VIEW

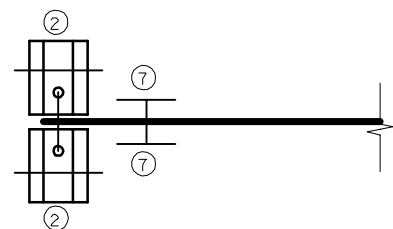
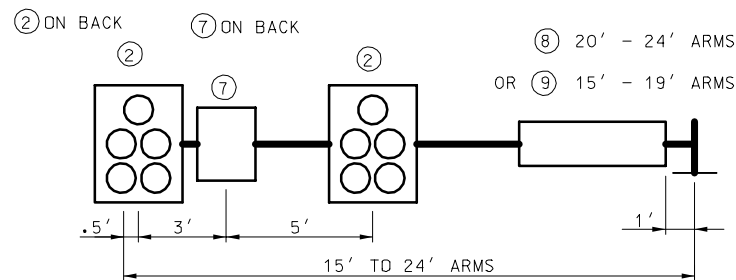
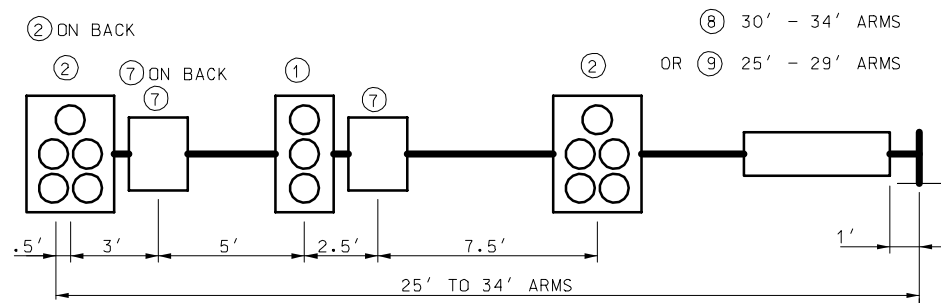
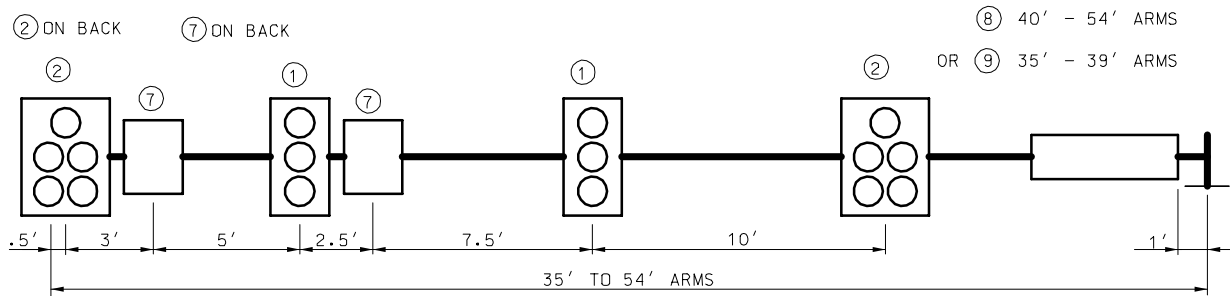


SIDE VIEW

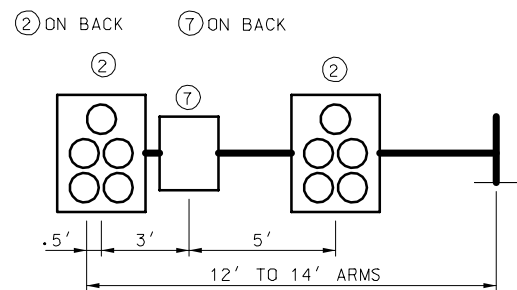
SIGN BRACKET ASSEMBLY

ALTERNATE DESIGN MAY BE PROVIDED  
AS APPROVED BY ENGINEER

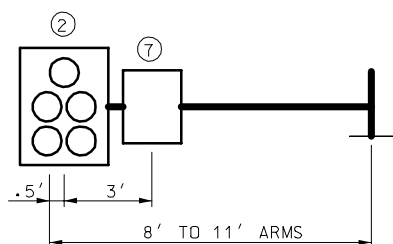
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION			
TRAFFIC SIGNALS TUBULAR STEEL POSTS			
DATE: _____	EFFECTIVE: 07-01-2004	902.40N	2 3



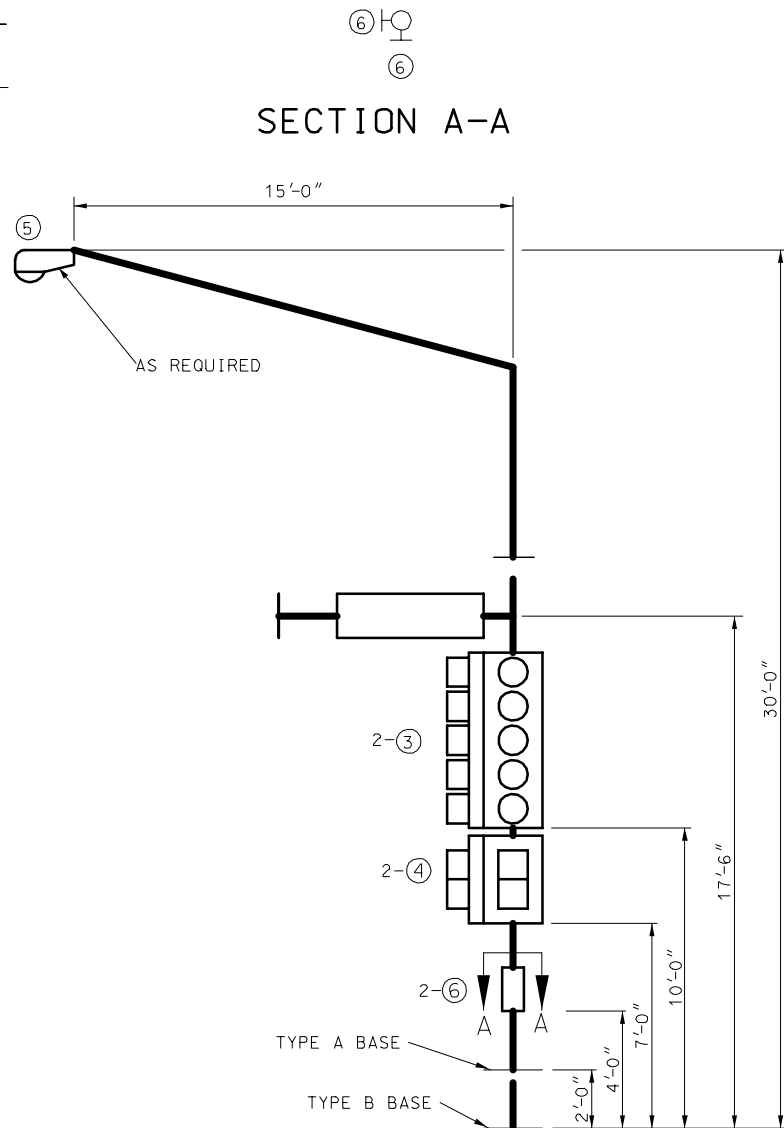
TYPICAL TOP VIEW



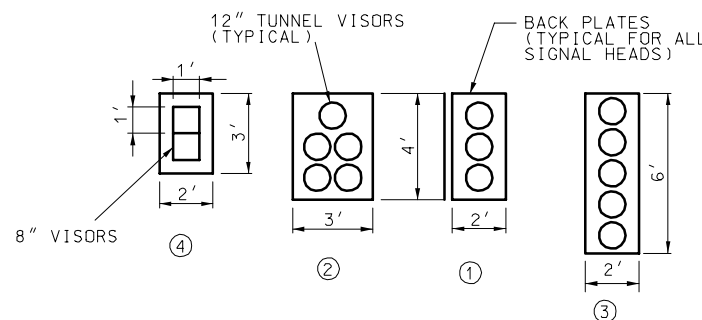
MAST ARM LOADING



MAST ARM LOADING



TYPICAL POST LOADING



ITEM NO.	DESCRIPTION	WEIGHT (LBS.)*	PROJ. AREA (SQ.FT.)	SURFACE AREA (SQ.FT.)
①	3-SECTION DL HEAD	60.0	8.0	32.5
②	5-SECTION DL HEAD	100.0	12.0	47.5
③	VERT. 5-SECT. DL HEAD	100.0	12.0	50.5
④	2-SECTION DL HEAD	40.0	6.0	23.0
⑤	150 WATT LUMINAIRE	30.0	1.0	3.5
⑥	9" X 18" SIGN	2.0	1.1	N/A
⑦	24" X 30" SIGN	27.0	5.0	N/A
⑧	120" X 18" SIGN	25.0	15.0	N/A
⑨	96" X 16" SIGN	18.0	10.7	N/A
⑩	96" X 18" SIGN	20.0	12.0	N/A

DL- OPTICALLY LIMITED  
\* MOUNTING HARDWARE INCLUDED

#### STRUCTURAL DESIGN REQUIREMENTS:

STRUCTURAL SUPPORTS SHALL BE DESIGNED AND FABRICATED TO WITHSTAND THEIR OWN LOADING AND THE ATTACHMENT LOADING SHOWN ON THIS DRAWING OR ON THE PLANS, WHICHEVER IS GREATER. STRUCTURAL MEMBERS INCLUDE POSTS, MAST ARMS AND LUMINAIRE BRACKET ARMS, AS REQUIRED.

DESIGN OF STRUCTURAL SUPPORTS SHALL BE BASED ON AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 1994 OR LATEST REVISION, WITH THESE EXCEPTIONS:

MINIMUM DESIGN WIND SPEED OF 90 MPH AT 30 FEET ABOVE GROUND.  
GROUP LOADING:

LOADS	PERCENT OF ALLOWABLE STRESS* (ALL MATERIALS)
GROUP I - DL	100
GROUP II - DL + W	133
GROUP III - DL + ICE + 0.5(**)	133

\*NO LOAD REDUCTION FACTORS SHALL BE APPLIED IN CONJUNCTION WITH THESE INCREASED ALLOWABLE STRESSES.  
\*\*W TO BE COMPUTED ON THE BASIS OF THE WIND PRESSURE FORMULA, 25 PSF (1197 Pg) MINIMUM FOR W FOR GROUP III.

FOR TYPE B AND BL POSTS, ICE AND DEAD LOADING SHALL BE BASED ON THE COMBINED EFFECT OF DESIGN LOADING ON EACH ARM. WIND LOADING IS APPLIED AS DESCRIBED IN SECTION 1.2.5(5)(b) OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS, 1994 REVISION.

GENERAL NOTES:  
ATTACHMENT LOCATIONS ARE FOR STRUCTURAL DESIGN PURPOSES ONLY.  
ACTUAL LOCATIONS ARE SHOWN ON THE PLANS.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION			
TRAFFIC SIGNALS TUBULAR STEEL POSTS DESIGN LOADING REQUIREMENTS			
DATE: _____	EFFECTIVE: 07-01-2004	902.40N	3/3

#### MINIMUM DESIGN LOADING FOR POST AND MAST ARM ATTACHMENTS